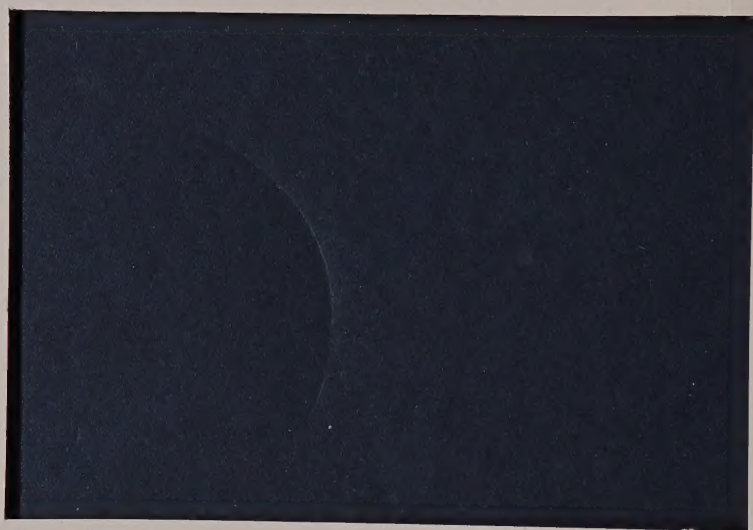**CMHC** **SCHL**
Canada Mortgage
and Housing Corporation
Société canadienne
d'hypothèques et de logement

Housing and Human Settlement Issues
in Sparsely Populated Areas of the World
as Related to the Development of Housing Policies
for the Native People of Canada

Housing and Human Settlement Issues
in Sparsely Populated Areas of the World
as Related to the Development of Housing Policies
for the Native People of Canada

by Howard Magid
School of Urban and Regional Planning
University of Waterloo
Waterloo, Ontario

Housing and Human Settlement Issues in Sparsely Poulated Areas
of the World as Related to the Development of Housing Policies
for the Native Peoples of Canada

Introduction

Since the framework of this report has been restricted to housing
and human settlement issues in developing areas of the world, on
occassion the terms development, housing and design have been
used interchangeably. Development, throughout this paper, refers
to the global impact of an intervening technology (macro level),
whilst design connotes the mechanical and mental processes of
architectural and siting details (micro level). Housing is taken
to mean all mannerisms of shelter and their respective delivery
systems. These subjectively interpreted definitions were used to
assure a reasonable degree of brevity and similarly reduce seman-
tical problems.

This paper focuses on some of the fundamental concerns facing
development projects and human settlements in harsh climates.
While attempting to define a philosophy of development, consider-
able attention has been paid to the contextual framework and the
institutional process. The latter part of this report describes
housing as a part of the social contract, a right and a cultural
entity.

Despite the vast temperature differential existing between the
Negev desert of Israel and the Arctic tundra of Canada these two
regions have a great deal in common. Both regions experience

1

severe climatic conditions, wind storms, extreme diurnal tem-
perature drops, scant vegetation and isolated pockets of human
settlements.

The ability of native populations to cope with these harsh cli-
mates is attributable to their capacity to adapt - to survive.
However, intervening development programs using sophisticated,
alien technologies can irreparably upset these established social
orders. The imposing force of the new technology's bureaucracy
and architecture is discussed in the next section.

Bureaucracies and Architecture: Partners in Colonialism

Two of the most prominent forces which shape our environment are
bureaucracies and architectural space, specifically avant garde
architecture.

Moshe Safdie[1] described modern architecture as a form of "inter-
nal colonialsim," a shaper of our working and living environ-
ments. In addition to this inner control borne out by the built
environment he described an "external colonialism," the bureau-
cracy, which directly imposes policy statements and imlementation
strategies upon its populace. While it is apparent that a bal-
ance between these partners in "colonialism" must exist for
optimal developments, one must first have a knowledge of their
raison d'être.

----

[1]Moshe Safdie is a practicing architect and town planner and
Dean of Architecture at Harvard University.

It was argued by Bruno Zevi[2] that a desert architecture techno-logy does not exist - it is merely architecture under severe conditions. Hence, habitable housing in harsh climates demands scrutinous attention to details which would otherwise be taken for granted in temperate environments. Architectural and siting details must be environmentally sensitive whilst being functional at a locally prescribed social (human) level.

Owing to the impact extreme climates have upon building struc-tures; e.g. high winds, freeze-thaw cycles and high solar gains, the critical attention to detail, throughout the design stage, can not be overstated. Housing delivery systems must provide units capable of withstanding the elments for at least the dura-tion of the mortgage or an equally realistic pay-back period. Especially in developing regions architects must pay particular attention to devise the means to minimize the disruptive pres-sures of their building technology, social and psychological stress and physical/environmental degradation.

Successful development, it must be stressed, is more than just growth and technological advancement; there is a fundamental requirement for extensive social planning to meet educational, medical and cultural needs of the resident populations. Post-modern architects who have had an obsession with material design and style have only served to perpetuate an anonymous design. Such "drop-in" architecture generally bears little relation to local climate, lifestyle and culture. This arrogant indifference

---

[2]Bruno Zevi is the Dean of Architecture at the University of Rome.

towards the local physical and social environments may manifest itself in rashes of vandalism, unexpectedly short project life-cycles as well as varying psychological disorders experienced by the residents of this alienating environment. Architects, designers and planners must cast off their lofty ideas and start designing in accord with local circumstances. Design/development teams' efforts ought to be directed towards understanding the environment - not conquering it and thus be in a position to establish a harmony of design not dissimilar to that of vernacular architecture.

As with urban architecture, urban bureaucracies can not simply and successfully be juxtaposed in a desert environment. Bureaucracies, being the authorities of implementation, tend to be irresponsive to individuals. Their broad implementation strategies make them unwieldy on an individual level. Hence, their political underpinnings to serve the individual and the community at-large are often compromised. In regions experiencing adverse climatic conditions the added burden of a slow moving and/or irresponsive bureaucracy can make existence intolerable. This condition becomes even more acute when the bureaucracy is imposed upon a people by "outside" interests. It might be said that the severity of the climate is directly proportional to the amount of attention planners, architects and engineers must pay to details ordinarily considered trivial e.g. water delivery and waste water collection services, provision of frost-resistant windows and affordable energy systems.

Where Technology is Master, Disaster is Faster[3]

Both traditionally and tragically technology has simultaneously bolstered the geopolitical structure[4] and indirectly eroded its base by returning a disproportionate amount of the benefits to the socio-economic system. Technology and the pursuit of wealth have been responsible for the redistribution of local labour from traditional employment into increasingly more concentrated societies. The ensuing permanent cleavages of family and friendship ties can rob communities of their purpose and identity, rendering them amorphous, technologically subservient units. Under these conditions the once attractive panacea, technology, is since perceived as a threat to local social values and one's own self-respect. This paradox of development requires constant monitoring to ensure that growth is socially compatible and not gauged soley on economic merit. In short, "where technology is master, disaster is faster."

The duality of growth and enslavement which techology imparts to developing areas must beome technically and socially adaptive. The possibility of growth without migrations, stated Dr. Weitz[5], must be explored. Where applicable, the geographic mobility of resources, rather than the social mobility of people, need be

---

[3]Anthony Penning, is the President of the International Technical Cooperation Centre (ITCC).

[4]Geopolitical structure refers to the resource extraction industries represented by the political economy.

[5]Ra'anan Weitz, Head, Settlement Study Centre, Rehovot, Israel.

encouraged to reduce unnecessary disruptions of family life, friendship linkages and the community fabric. Even under these preferred circumstances the latent impact of technology will affect the functional unity of the developing community by virtue of its job creation capacity, financial remunerations and con-commitantly affect the local "pecking order". Ideally, such technologically induced disruptions can be reduced once they have been identified and quantitifed. Using simulation models, hier-archies of impact can be generated providing planning and design teams with optimal solutions - given the available information. Historically 'change' in deserts and environmentally severe re-gions has been inextricably linked to adaptation and survival, therefore solutions too must be adaptive and compassionate with people and their environment.

The Three D's of Development: Demystifying, Designing and Decentralizing

Development projects in desert and sparsely populated areas are invariably promoted and operated by non-residents of the project community. They import with their physical development plans alien lifestyles, a "colonial" bureaucracy and teams of scien-tists, engineers and technicians vaguely familiar with the local environment.

Vernacular architecture may be likened to an architectural Dar-winism. Based upon their particular social, spiritual and physi-cal needs societies built (build) structures typical of their respective culture. The lengthy process of adapting these struc-

tures to climatic, environmental and cultural factors was based on trial and error, or survival of the fittest structure. Hence, vernacular architecture represents a proven historic and scientific process of shelter design based upon rudimentary hypotheses, empirical testing and an environmental sensitivity. Despite its environmental compatability and functionalism, this knowledge system is seldom appreciated in light of current design principles.

Contemporary architectural solutions do not necessarily yield satisfactory or functional habitats. The importation of concepts which bear little respect to the social and physical environments is arrogant and damaging to the housing delivery/design process. Therefore, developers/designers must strive to comprehend local conditions, local solutions and the local culture before development strategies are either conceptualized or implemented. The processes of town planning and shelter design must be demystified by the respective sharing of knowledge systems between the developer and the developing societies. Alternatives to, or simplified forms of, the comprehensive planning model may be devised to ensure the layman's comprehension of the scheme and his participation in it.

In developing regions design opportunities must be made accessible to the native population. Accessible, in this context, is defined as: conceptually comprehensible; physically attainable (participatory design); and having localy prescribed, interpreted and enforced standards. As an intervening and disruptive force,

design (technology) must assume a purposeful role as a communicator. Design must effectively bridge the priorities and needs of the resident population with those of the developing agent whilst instilling in each a motivating force, an emotional ideology. To quote Bruno Zevi, "Technology without context produces pessimism and failure." Hence, development (design) must proceed cautiously so that it can be adaptive and responsive - not painfully scientific, efficious and alien to the local people.

Decentralized approaches to project design and development offer higher probabilities of acceptance and success than do externally controlled central bureaucracies. Cost effectiveness and economies of scale afforded by centralized bureaucracies can prove to be of marginal benefit in comparison to the intangible assets of local involvement in and local appreciation of the project.

Suitcase planning and design teams are often resented by virtue of their insular character, singular objectives, and vital control of the community from hundreds - even thousands of miles away. The project, already experiencing severe climatic conditions, need not be subjected to additional hostilities from the community. Hence, development projects, "... are in need of good communicators not good commuters." (Bar-Cohen)[6] The dilemma of top-down and bottom-up management ought to be massaged into a healthy working relationship in accord with local conditions. The involvement of local political bodies (planning boards, town councils etc.) and interested parties throughout the project

---

[6]Bar-Cohen, speaker at conference - no further information available.

planning stage would theorectically demystify the project and generate a considerably greater degree of local acceptance. Although the "three d's" do not guarantee project success, they do provide a logical approach to secure plan acceptance in an already inhospitable climatic environment. By clarifying project objectives, simplifying the institutional process and encouraging local involvement the probability of project longevity is appreciably increased.

Housing - Right or Resource: A Value (Cultural) Judgement

Local housing, recreation, medical and educational services, already limited on remote communities, are severely impacted by the duresse of development. Competition for vital services between the cash-poor residents and the cash-rich transient work force may arise rendering these services both financially and physically inaccessible to the former.

In remote areas, housing - the provision of shelter - is perceived as a right and vital for survival. However, in regions confronted with development pressures and a scarcity of housing, housing assumes a different value - it becomes a resource, a commodity with a price.

Economic enslavenment, cultural compromise and the overall reduction of quality of life may result from induced value changes. Seemingly minor value fluctuations can destabilize indigenous value systems making them prone to toppling due to the "domino-effect." Subsequently, all facets of lifestyle, perception and need would be affected. This acculturative and debilitating

9

process has plagued the native people of Canda since the six-
teenth century when the first European - led explorers arrived in
search of a Northwest passage from the Orient. Waves of expedi-
tions in search of furs, precious metals and hydrocarbon reserves
have persisted to-date with no lesser impact on the Native
peoples.

Native housing policy must be compatible with local social,
economic, and physical environments. The assessment of compati-
bility, needs and acceptable implementation strategies are sub-
ject to cultural and personal interpretation. Therefore, to
eliminate unforeseen cross-cultural problems in native shelter
design and housing policy, both client and patron ought to make
their respective objectives clear, preferably in public meetings.
Theoretically, this latent understanding of local systems and
needs can indirectly reduce a project's operation and mainten-
ance costs by increasing resident appreciation and the life-cycle
of the dwelling unit.

Local native participation in the drafting of housing policy can
serve to encourage their self-development. Participation could
help bolster native self-respect and acceptance of the housing
delivery process. Native invovlement in the process is a neces-
sary but not a sufficient condition for this success. The system
must adopt a decentralized, low-profile stance with local, regio-
nal and national representation. While being low profile (acces-
sible), the delivery system should also be adaptive and capable
of developing appropriate building standards. Similarly, appro-

priate technolgoies and affordable rental-purchase programs must
be implemented. Dwelling units should be functional, operating
harmoniously with climate and client.

Canadian housing projects destined for native and northern
clients experience problems similar to those of other developing
and sparsely populated areas of the world.

Conclusion

The difficulty in providing satisfactory housing to the native
and northern peoples of Canada is complex. In remote areas the
interfacing forces of severe climate, lack of locally available
building materials, the high cost of construction and disparate
cultural perceptions of need have necessitated taking a scienti-
fic approach to the housing delivery system. However, relocation
programs and improved building technologies have inadvertently
served to alienate the relocated persons and reduce their (per-
ceived) quality of life.

Vernacular architecture, susceptible to the same environmental
factors, provided indigenous populations with a shelter of a
comparatively higher performance value. Although not necessarily
of "better" construction, these shelters were environmentally
sensitive, transportable and accomodated cultural values. This
begs the question whether vernacular architecture's satisfactory
performance was (is) based on the physical nature of the struc-
ture alone or the pride of construction, pride of ownership and
pride of independence it may have elicited.

Housing progorams for native people in Canada and developing areas of the world must foster self-development. The sharing of knowledge and value systems, not the imposition of values and objectives, should be the stimulus of the housing delivery system. Public and political support in the form of transfer payments, subdued institutional interference, and collaboration at all levels of the process are essential elements to ensure the program's inertia. Even with the above considerations there is little hope to sustain viable housing projects without an endogenous housing ideology. Pride of ownership, pride of construction and the ensuing self-respect and independence can provide the needed kernels upon which to base a native housing ideology.

Human settlement and housing issues in harsh climates and sparsely populated areas share the same problems and propsects as those in temperate and urbanized regions. The difference is only one of degree. The severity of climate, remoteness of location and cultural disparities require that planning/development teams and bureaucracies exercise more patience, more caution and more compassion so that adaptive and successful programs may be delivered.